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ABSTRACT

Two experiments were conducted to investigate the effect of reader perspective on encoding, storage, and retrieval processes and how this effect differs as a function of cognitive style. In both experiments, subjects read a passage from one of two assigned perspectives (a burglar or a prospective home buyer) or from no assigned perspective. In the first experiment, 54 college students completed measures of immediate recall and recognition and the Group Embedded Figures Test; in the second experiment, 50 college students completed measures of delayed recall and recognition and the embedded figures test. On the immediate recognition measure, subjects who read a passage from either of the two assigned perspectives correctly recognized more items that were important to the burglar perspective, but subjects not assigned to any perspective showed no difference in recognition of burglar and home buyer information. These findings suggest that assigning subjects a perspective induces them to think more about the passage and relate it to their prior knowledge. The results of the immediate recall measure suggest that readers used their knowledge associated with the assigned perspective as a retrieval plan. Finally, the pattern of individual differences on the delayed recall measure suggests that structural characteristics of the text itself might affect storage and retrieval but not encoding processes. (FL)

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The Role of Reader Perspective in Language Comprehension and Memory

by

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The effect of reader perspective on encloding, storage, and retrieval processes and how this effect may differ as a function of cognitive style was investigated in two experiments. The effect of reader perspective on encoding, storage, and retrieval processes was investigated by comparing recall and recognition functions on immediate and delayed tests. Individual differences in the use of reader perspective for encoding, storing, and retrieving textual information was investigated by comparing subject's scores on an embedded figures test to their performance on these recall and recognition tests.

On the immediate recognition test, subjects who read the passage from either of the assigned perspectives (burglar or home buyer) correctly recognized more items that were important to the burglar perspective, but subjects who were not assigned any perspective showed no difference in recognition of burglar and home buyer information. It was suggested that perhaps assigning subjects a perspective induces them to think more about the passage and relate it to their prior knowledge. The results of the immediate recall test suggest that readers use their knowledge associated with the assigned perspective as a retrieval plan. Finally, the pattern of individual differences on the delayed recall test suggests that structural characteristics of the text itself may affect storage and retrieval processes but not encoding processes.

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The Role of Reader Perspective in Language Comprehension and Memory

George L. Newsome III

The research presented in this paper will be concerned with explaining how people learn and remember information from textual materials. Educators have long been concerned with understanding how people learn and remember such information so as to allow them to improve the learning process, either by designing more memorable text or study aids, or by training their students in more efficient study skills.

Traditionally, psychologists have investigated prose learning and memory by presenting subjects with one or more passages to read and then asking them to recall or summarize the passage. One of the earliest and most consistent findings of this type of research was that portions of a text that were most important or central to the theme of a passage were recalled by nearly everyone, whereas unimportant portions were recalled by almost no one (e.g., Binet and Henry, 1884; Newman, 1939; Gomulicki, 1956). Furthermore, these same important story elements were also the ones most often included in summaries (e.g., Gomulicki, 1956; Thorndyke, 1977).

Since the early demonstrations of the effect of importance on prose recall, two different approaches have been

taken to explain how readers determine what is important in a text. One approach has emphasized the structure of the text and how readers use their knowledge of linguistic conventions that signal organization. Using text structure analysis and text grammars, researchers who take this approach have demonstrated that upper-level, more structurally central propositions are better recalled and more often included in summaries than lower level ones (e.g., Rumelhart, 1976; van Dijk and Kintsch, 1976; Thorndyke, 1977; Mandler and Johnson, 1977).

The other approach has emphasized the characteristics of the reader such as his or her world knowledge, interest, or perspective in determining what one considers important in a passage. Researchers who take this approach have argued that text structural approaches are misleading in their implications for psychological theories of language comprehension. Spiro (1977), for example, has pointed out that certain characteristics of conventional memory experiments tend to minimize the subjects use of prior knowledge and thus maximize the influence of structural factors on what subjects remember. Under conditions where the influence of world knowledge, interest and perspective are less restricted, these reader characteristics may be more important than text structure in determining what a reader learns and remembers from a passage.

In support of this position, Pichert and Anderson (1977) have presented the results of a study demonstrating

the effect of reader perspective on rated importance and recall of idea units from stories. Subjects read stories from one of two different perspectives or from no directed perspective and then were asked to rate the importance of idea units from the perspective from which they read each story. If importance were determined entirely by characteristics of the text itself then perspective should have no effect on rated importance. This prediction was clearly disconfirmed by their results. In a second experiment, a different group of subjects were told to read the stories from one of two different perspectives or no directed perspective and then were asked to recall them. The importance ratings from a given perspective were found to be the best predictors of recall for subjects who read each story from that perspective.

Thus the Pichert and Anderson study clearly demonstrated the influence of reader perspective on what people learn and/or remember from stories. However, as Spiro (1980) points out "...the relative contribution of prior knowledge will vary as a function of characteristics of the material being read, the purposes of reading, and differences between individuals in their processing styles...(p.323). In their investigation of the effect of reader perspective on story comprehension and memory, no attempt was made by Pichert and Anderson to control for the possible effects of individual differences in cognitive style. A number of recent studies (Spiro, 1978; Spiro and Tirre, 1980; Spiro, Tirre, Freebody

and Deloach, 1979) have presented evidence that some individuals rely more on their world knowledge in understanding text, whereas others rely more on the contributions of the text to understanding. It might therefore be argued that the comprehension and memory processes described by Pichert and Anderson may not be characteristic of all individuals. Rather, individuals reading the same material for the same purposes may differ in the way they allocate their limited-capacity processing resources. One of the objectives of the present study was to investigate these individual differences.

In addition, the Pichert and Anderson study failed to specify the mechanism by which reader perspective has its effect. From their results, it is difficult to determine whether important elements are remembered better because they are more likely to be encoded during reading, less susceptible to loss through forgetting, or easier to retrieve at the time of recall. Although a number of studies (e.g., Meyer, 1977; Yekovich and Thorndyke, 1980) have experimentally separated the effect of text structure on encoding, storage and retrieval processes, very little research has attempted to investigate the separate effect of reader perspective on these processes.

In a later study, Anderson and Pichert (1978) have presented evidence for the effect of reader perspective on retrieval processes. Subjects read and recalled stories from one of two different perspectives, then half the subjects shifted to the alternate perspective and recalled the stories

a second time. Those subjects who shifted perspective were able to recall information important to their new perspective but unimportant to their old perspective that they had failed to recall in their initial attempt.

However, the paradigm used by Anderson and Pichert did not provide a strong test of the effect of reader perspective on encoding and storage processes. This was one of the objectives of the present study. It investigated the effect of reader perspective on encoding, storage, and retrieval processes by comparing subjects' performance on recall and recognition for immediate and delayed tests. It has been argued (Anderson and Bower, 1972; Kintsch, 1970, 1974; McCormack, 1972) that encoding and retrieval effects can be distinguished by comparing recall and recognition functions. Since recall involves an uncued sequential search guided by the schemata operative at the time, information that is unconnected to a schema will be relatively unavailable. Recognition, however, can presumably be carried out equally well for all elements of a text. Therefore, the importance of text elements should influence recognition as well as recall only if the prior knowledge schemata associated with the operative perspective affect encoding and storage processes as well as retrieval. Failure to obtain recognition differences would suggest that encoding and storage processes were unaffected by these schemata and that recall differences were attributable to differential retrievability of information at the time of recall.

In addition, by comparing subjects' performance on immediate and delayed tests the effect of reader perspective on storage processes might be distinguished from its effect on encoding and retrieval processes. If, for example, important story elements were less susceptible to loss through forgetting, perhaps because they are processed more deeply, this may result in the differences in subjects' performance on immediate and delayed recall and/or recognition tests.

In fact, a recent study by Yekovich and Thorndyke (1980) suggested that this might be the case. Subjects recalled four stories and were then given a recognition test. The recognition test items were story propositions that were either in their original syntactic form, paraphrased, or altered in meaning. It was found that although subjects could discriminate between original and paraphrased items for all story propositions, discriminability varied inversely as a function of importance. Subjects were more likely to correctly reject a paraphrase of an original story item if it were unimportant than if it were important. This result suggests that subjects may process important and unimportant story elements differently. If subjects spend less resources in thinking about and elaborating unimportant story elements then more resources may be available to attend to their exact wording (Norman and Bobrow, 1975). This would result in better memory for their surface structure on immediate tests (cf. Stein, 1978). On delayed test, however, such surface structure memory would have decayed (e.g., Newman, 1939; Meyer,

1975). For this reason, paraphrase items as well as identical items and meaning changes were used on the recognition test in the present study.

Thus the present study investigated the effect of reader perspective on encoding, storage, and retrieval processes and how this effect may differ among individuals as a function of cognitive style. Subjects read a story from one of two different perspectives. Either immediately or four days later they were asked to recall the story from either the perspective they read it from or the alternate perspective and then were given a recognition test. In addition, a control group read the story from no directed perspective and then recalled it from no directed perspective and took the recognition test either immediately or four days later.

Finally, all subjects were given the Group Embedded Figures Test prior to reading the story. Previous studies have suggested that people scoring high on this test rely more on their world knowledge in understanding text while those scoring low rely more on the contributions of the text to understanding (e.g., Spirro and Tirre, 1980). By comparing subjects' scores on this test with their performance on the recall and recognition tasks, individual differences in subjects' use of their prior knowledge associated with the assigned perspective might be investigated. Furthermore, reader perspective and text structure or content might be affecting encoding, storage, and retrieval processes differently. For example, text structure or content could be

affecting encoding processes whereas reader perspective affects retrieval processes. If this were true, one might expect these effects to be revealed by the pattern of performance of subjects with high and low embedded figures test scores on the recall and/or recognition tasks. Therefore by comparing subjects' performance on recall and recognition tasks and individual differences in this performance a better understanding of the effect of reader perspective on comprehension and memory processes might be obtained.

Method

Experiment 1

Experiment one was designed to investigate the effect of reader perspective and cognitive style on immediate recall and recognition.

Subjects. A total of 54 undergraduate education students served as subjects. Of these subjects 51 were enrolled at Indiana University in Bloomington and three were enrolled at Indiana University-Purdue University at Indianapolis. However, since three subjects failed to attend the second session, their results were dropped from the analysis. More will be said about this later.

Materials. The experimental passage used in this study was the House passage used by Pichert and Anderson (1977). This passage is 373 words long and contains 72 idea units that have previously been rated by a group of undergraduate subjects (Pichert and Anderson, 1977) for their relative importance to

a burglar and to a prospective home buyer. In addition, importance ratings have also been obtained by Pichert and Anderson for the 72 idea units from subjects who simply read the story without taking any perspective (control group).

The recognition test items were constructed from propositions taken from the House passage. These items were of three types: identical items, paraphrases, and meaning changes. Identical items were story propositions taken verbatim from the original story. Paraphrases were story propositions with their syntax changed and/or with the original content words replaced with synonyms. Meaning changes were story propositions with incorrect details substituted for original story information.

Six different versions of the recognition test were constructed. Each version contained items constructed from all 72 idea units and the items were arranged in the same order as they occurred in the story. However, only those items constructed from the 18 story propositions that differed the most in rated importance between the burglar and homebuyer perspectives were manipulated. These items were counterbalanced across the six different versions so that each idea unit was represented by an identical item twice, a paraphrase twice, and a meaning change twice. The six different versions of the recognition test were randomized across subjects. In addition, all subjects were given the Group Embedded Figures Test (GEFT: Oltman, Ruskin, and Witken, 1971) and the Wide Range Vocabulary Test (French, Ekstrom, and Price, 1963).

Procedure. Experiment one involved two sessions. During the first session, subjects took the Group Embedded Figures test (GEFT: Oltman, Ruskin, and Witkin, 1971) and were then assigned to one of five different treatment conditions for the second session based on their scores on this test. An approximately equal number of subjects scoring high, medium, and low on this test were assigned to each treatment condition. As mentioned earlier, however, three of the subjects who took the embedded figures test during the first session failed to attend the second session. In addition, three of the subjects who attended the second session had failed to attend the first session. Since these three subjects had to be given the embedded figures test at a later time, they could not be assigned to treatment conditions on the basis of their scores. These two circumstances resulted in unequal numbers of subjects scoring high, medium and low being included in the different treatment conditions. More will be said about this in the results section.

During the second session, subjects in condition one were given the story and instructed to read it from the perspective of a burglar. Two minutes were given to read the story and then 12 minutes to work on the Wide Range Vocabulary Test (French, Ekstrom and Price, 1963). Next came a free recall test in which subjects were told to write everything they could remember from the passage. Subjects were also told, "If you can not remember the exact words of a sentence but you do remember the meaning, write down a sentence or part of a

sentence as close to the original as possible." After the recall test, subjects were given the recognition test items and asked to judge, for each item, whether it was an identical item, a paraphrase or a meaning change. Both the recall and recognition tests were subject paced. The procedure for the other four groups was the same except for the reading and recall instructions. Subjects in condition two read the story from the perspective of a burglar but recalled it from the perspective of a home buyer. Subjects in condition three read and recalled the story from the homebuyer perspective and in condition four they read the story from the homebuyer perspective and recalled it from the burglar perspective. And finally, subjects in condition five (control group) were given no directed perspective for either reading or recalling the story.

Scoring. Subjects' recall protocols were scored for the presence of statements which, according to their underlying meaning, matched any of the 72 idea units of the story. Recall protocols for experiment 1 were independently scored by two different scorers. The correlation between the judgements of the two scorers was $r = .85$.

Experiment 2

Experiment two was designed to investigate the effect of reader perspective and cognitive style on delayed recall and recognition tests.

Subjects. The subjects were 50 education students. Of these 50 subjects, 20 were graduate students at Indiana

University in Bloomington and 30 were undergraduates at Indiana University-Purdue University at Indianapolis. Graduate and undergraduate students were evenly distributed among the five different treatment conditions: 4 graduate students and 6 undergraduate students were assigned to each of the five different conditions.

Materials. The materials used in experiment two were the same as those used in experiment one except that the Wide Range Vocabulary Test was not used.

Procedure. Because of time constraints, Embedded Figures Test scores were not used to assign subjects to treatment conditions in experiment two. Subjects in experiment two simply took the Group Embedded Figures Test and then were given the story to read followed four days later by a recall and then a recognition test. The reading and recall instructions for the five different treatment conditions in experiment two were the same as in experiment one.

Scoring. The same scoring procedures were used in experiment two that were used in the first experiment. Recall protocols were scored for the presence of statements which, according to their underlying meaning, matched any of the 72 idea units of the story. No interscorer reliability check was done for experiment two.

Results

The results of the immediate recall and recognition test were each analyzed separately. Because six subjects failed to attend both sessions of the experiment, one of the cells in the design ended up with only one subject. Therefore a 5x3x2 mixed analysis of variance involving treatment condition, GEFT score, and idea unit importance as factors would not have produced valid results. Instead, the results of the immediate recall test were first analyzed using a 3x3x2 mixed analysis of variance involving perspective from which the story was recalled (Burglar, Homebuyer, Control), GEFT score (High, Medium, Low), and idea unit importance (High Burglar, High Homebuyer) as factors. Perspective and GEFT score were between subjects factors and idea unit importance was a within subjects factor. The analysis of variance was performed on those 28 idea units that had previously been rated (Pichert and Anderson, 1977) as having differential importance from the burglar and homebuyer perspectives. Fifteen of these idea units were rated as important to burglars but much less important to homebuyers. The other thirteen were of higher rated importance to home buyers than to burglars.

This first analysis of variance revealed a significant overall main effect for idea unit importance, $F(1,40) = 13.79$, $p>.01$, and a significant interaction between perspective and idea unit importance, $F(2,40) = 4.35$. $p>.05$. In addition, subjects scoring higher on the embedded figures test recalled more idea units that were of high importance to both perspec-

tives than did subjects with lower scores as revealed by a significant overall main effect for GEFT score, $F(2,40) = 52.22$, $p>.01$. Contrary to predictions, however, GEFT score did not interact with any other factor. Because no interaction was found between GEFT score and any other factor, a second 5x2 two way analysis of variance was performed on these same data. In this second analysis of variance, the between subjects factor was treatment condition and the within subjects factor was idea unit importance. This second analysis of variance revealed a significant overall main effect for idea unit importance, $F(1,45) = 15.7298$, $p>.01$, and a significant interaction between idea unit importance and treatment condition, $F(4,45) = 2.5692$, $p>.05$.

Simple main effects analysis of variance for the immediate recall test revealed a significant effect for idea unit importance within treatment condition one, $F(1,45) = 14.728$, $p<.01$, and within treatment conditon four, $F(1,45) = 9.80$, $p<.01$. As expected, subjects who recalled the story from the burglar perspective recalled more idea units that were important than unimportant to that perspective. However, no other effects reached significance. Presumably, subjects in treatment conditions two and three who recalled the story from the home buyer perspective were unable to use that perspective as a retrieval plan. More will be said about this in the discussion section.

The results of the recognition test were analyzed separately for recognition of identical items, paraphrases, and

meaning changes. These results were first analyzed using three 3x3x2 mixed analyses of variance. For all three of these analyses, the between subjects factors were perspective from which the story was read (Burglar, Home Buyer, Control) and GEFT score (High, Medium, Low). The within subjects factor was idea unit importance (High Burglar, High Homebuyer). Only the analysis of variance for meaning changes revealed any significant effects. It revealed a significant overall main effect for idea unit importance, $F(1,41) = 8.24247$, $p<.01$, and a significant interaction between idea unit importance and perspective, $F(2,41) = 4.35485$, $p<.05$. No other effects reached significance.

Because no significant interactions were found between GEFT score and any other factor, a second 5x2 analysis of variance was performed on recognition of meaning changes. In this second analysis of variance, the between subjects factor was treatment condition. The within subjects factor was idea unit importance. This second analysis of variance revealed a significant overall main effect for idea unit importance, $F(1,45) = 20.42$, $p>.01$, and a significant interaction between idea unit importance and treatment condition, $F(4,45) = 4.86$, $p>.01$.

Simple main effects analysis of variance for recognition of meaning changes revealed a significant effect for idea unit importance within condition two, $F(1,45) = 25.5287$, $p<.01$, within treatment condition three, $F(1,45) = 5.438$, $p<.05$ and within treatment conditon four, $F(1,45) = 7.4018$, $p<.01$.

Surprisingly, subjects in all three of these treatment conditions recognized more meaning changes that were important than unimportant to the burglar perspective. No other effects reached significance.

Experiment 2

The results of the delayed recall and recognition tests were each analyzed separately. As in experiment one, the uneven distribution of subjects with high, medium, and low scores on the embedded figures test among the five different treatment conditions resulted in some of the cells in the design having only one subject. Therefore, the results of the delayed recall test were also analyzed using a 3x3x2 mixed analysis of variance as in experiment one. The between subjects factors were perspective from which the story was recalled (Burglar, Home Buyer, Control) and Group Embedded Figures Test score (High, Medium, Low). Idea unit importance was a within subjects factor. The analysis of variance was performed on recall of those idea units that had previously been rated (Pichert and Anderson, 1977) as having differential importance from the burglar and home buyer perspectives.

Subjects with high or low scores on the embedded figures test who recalled the story from either the burglar or homebuyer perspective recalled more idea units that were important to the burglar than homebuyer perspective as revealed by a significant overall main effect for idea unit importance, $F(1,41) = 14.84$, $p>.01$. However, subjects with medium scores on the embedded figures test showed no difference in recall

of idea units as a function of their importance to the burglar or home buyer perspectives. This was revealed by a significant interaction between idea unit importance and GEFT score, $F(2,41) = 5.80$, $p<.01$, and significant simple main effects for idea unit importance within high GEFT, $F(1,40) = 6.5923$, $p<.05$, and within low GEFT, $F(1,41) = 16.9556$, $p<.01$, but not for idea unit importance within medium GEFT.

The results of the delayed recognition test were analyzed separately for recognition of identical items, paraphrases, and meaning changes using three 3x3x2 mixed analyses of variance. For all three analyses, the between subjects factors were perspective from which the story was read and Group Embedded Figures Test score. Idea unit importance was a within subjects factor. No significant effects of any kind were found for the delayed recognition test.

Discussion

In order to investigate the effect of reader perspective on encoding, storage, and retrieval processes and individual differences in this effect, three hypotheses were tested. First, it was hypothesized that reader perspective influences recall of important story elements by affecting retrieval processes. Second, it was hypothesized that reader perspective also affects encoding and storage processes, perhaps by inducing subjects to devote deeper processing and more elaboration to story elements that are important to the perspective operative during reading. Third, it was hypothesized that readers would differ in the extent to which they rely on their world

knowledge associated with the assigned perspective and on the structure or content of the passage in encoding, storing, and/or retrieving story information as a function of cognitive style. These three hypotheses will now be evaluated in the light of the experimental results just presented.

Effects of Reader Perspective on Retrieval Processes

Based on the results of the perspective shift studies mentioned earlier, Anderson and Pichert (1978) have argued that readers use their prior knowledge schemata associated with the perspective operative during recall as a plan for searching memory. The results obtained in experiment one of the present study could be viewed as consistent with this interpretation. Subjects in experiment one who recalled the story from the burglar perspective recalled more information important to burglars but unimportant to homebuyers than vice versa, regardless of the perspective from which the story was read. This result suggests that subjects who were assigned to recall the story from the burglar perspective were using their knowledge of what is important to burglars as a retrieval mechanism. This result is consistent with the results of Anderson and Pichert (1978).

On the other hand, subjects in experiment one who recalled the story from the home buyer perspective showed no difference in recall of burglar and home buyer information regardless of the perspective from which they read the story. This result was not identical to the results of previous studies but it was in the same general direction. Previous studies

(e.g., Pichert and Anderson, 1977; Anderson and Pichert, 1978; Anderson, Pichert, and Shirey, 1979) have all found that importance of story elements is more strongly related to recall for the burglar than for the home buyer perspective. In the present study, subjects were apparently unable to use the home buyer perspective as an effective retrieval mechanism. Why this might be true will be discussed later.

Effects of Reader Perspective on Encoding and Storage Processes

Because recognition memory is thought to be less affected by the kind of retrieval strategies involved in recall, a recognition test was used in both experiments one and two to investigate the effect of reader perspective on encoding and storage processes. Performance of subjects on meaning changes in experiment one suggests that when subjects are told to take either perspective, more story elements that were rated as important to the burglar than to the home buyer perspective get encoded into memory. Subjects in treatment condition two, who read the story from the burglar perspective, and subjects in condition three and four, who read the story from the home buyer perspective, correctly identified significantly more meaning changes that were important than unimportant to the burglar perspective. Subjects in condition one who also read the story from the burglar perspective correctly identified more meaning changes that were important than unimportant to that perspective although this difference was not significant.

These results are somewhat surprising. They suggest that telling subjects to take a given perspective does not necessarily result in better memory for story elements that are important to that perspective. Rather, telling subjects in this experiment to take a perspective (either) seems to induce them to process the story in a way that results in better memory for burglar information. Why this is true poses an intriguing question. Perhaps telling subjects to take a perspective induces them to think more about the story and relate it more to their world knowledge in trying to use the assigned perspective. Subjects may sometimes have difficulty recognizing cues in the story that suggest the assigned perspective as suggested by a previous study (Pichert and Anderson,1977). If this were true, then thinking about the story in different ways and relating it to their world knowledge may lead subjects to recognize other cues that may suggest other sources of prior knowledge that are more interesting or familiar. On the other hand, subjects who are not told to take a perspective would not think about the story and relate it to their world knowledge any more than just what is necessary to understand and remember the story. More will be said about this later.

Some might argue that idea units that were important to the burglar perspective were recognized more readily because of their position in the structure of the text or because they were also important to understanding the story itself. However, if this were true, one would expect that subjects in the

control condition would also correctly identify more items that were important to the burglar perspective. This was clearly not the case in the present study. For subjects in the control condition, the small, insignificant difference was in favor of the home buyer perspective.

For whatever the reason, it appears that when subjects are told to take a perspective, more story elements that are important to the burglar than to the homebuyer perspective get encoded into memory. An alternative explanation might be that story elements important to the burglar perspective receive deeper processing and more elaboration, resulting in a more durable memory trace. However, subjects' performance on the paraphrase items of the recognition test does not offer support for this interpretation. No difference in recognition of paraphrases that are important and unimportant to the burglar perspective were found. Although Yekovich and Thorndyke found that subjects' memory for surface structure was inversely related to importance of story elements in terms of a story grammar, there are other possible explanations for their results (see Thorndyke and Yekovich, 1980, pp. 36-37).

Individual Differences in Processing Styles

The third hypothesis investigated in this study was that subjects with high scores on an embedded figures test would rely more on their prior knowledge associated with the assigned perspective in encoding, storing and/or retrieving story information while subjects with low scores would rely more on the contributions of the text. The results of the

immediate recall and recognition test offer no support for this hypothesis. Subjects in experiment one showed no differences in recall or recognition of story elements as a function of cognitive style.

On the delayed recall test in experiment two, however, subjects with either high or low scores on the embedded figures test who recalled the story from either the burglar or the home buyer perspective recalled more idea units that were important to the burglar than to the home buyer perspective. On the other hand, subjects with intermediate scores on the embedded figures test showed no difference in recall of burglar and home buyer information regardless of whether they recalled the story from the burglar or home buyer perspective.

This result seems rather puzzling. However, two conclusions seem to follow. First, it appears that differences in cognitive style are affecting storage and/or retrieval processes rather than encoding processes since scores on the embedded figures test did not predict immediate recall and recognition. Second, the fact that subjects with low embedded figures test scores recalled more burglar than home buyer information, together with the results of the immediate recognition test, suggests that these subjects may capitalize on the inherent structure or content of the text itself to improve recall of story elements that were attended to during reading. More will be said about this in the next section.

Implications of the Present Study and Suggestions for Future Research

The results of the present study seem to have several implications for explaining the relative effects of reader perspective and text structure on story comprehension and memory. First, the results of this study as well as previous ones (e.g., Pichert and Anderson, 1977; Anderson and Pichert, 1978; Anderson, Pichert, and Shirey, 1979) suggests that importance of story elements is more strongly related to recall for some perspectives than for others. For example, Pichert and Anderson (1977) presented subjects with either the House passage used in the present study or another story, termed the Island story, about two gulls frolicking over a remote island. Subjects read the House passage from either the perspective of a burglar, a home buyer, or no directed perspective and the Island passage from either the perspective of an eccentric florist, a shipwrecked person, or no directed perspective. Their results indicated that importance was more strongly related to recall for the burglar perspective on the House passage and for the shipwreck perspective on the Island passage. Furthermore, the results of a debriefing questionnaire given to subjects in this same study suggest that this effect may be at least partially due to subjects' inability to keep some perspectives in mind while reading the story. Responses indicated that the burglar and shipwreck perspectives were most often kept in mind while reading.

The results obtained in the immediate recognition test of the present study also seem to provide support for the idea that subjects may have difficulty using the home buyer perspective in reading and encoding story elements. If subjects are relatively unfamiliar with the concerns of buying a house, they may have difficulty recognizing cues in the story that suggest the home buyer perspective. At the same time, thinking about the story and relating it to their world knowledge in attempting to take a perspective may lead readers to recognize other story elements not normally identified with that perspective, but rather with more familiar world knowledge. For example, readers trying to use the home buyer perspective may, because of certain story elements (large house and expensive furnishings) think of the economic and social standing of the residents. As a result, these story elements would more likely get encoded into memory. However, there may be other reasons why subjects are better at using some perspectives than others. Furthermore, subjects who are unfamiliar with a given perspective may have trouble using that perspective as a retrieval mechanism in addition to their problems with using it during reading. Future research needs to investigate these and other possibilities.

Another possibility suggested by the results of the present study is that story structure may sometimes affect storage processes and/or retrieval processes on delayed tests without affecting encoding or immediate retrieval processes. On the other hand, reader perspective seems to affect encoding,

storage, and retrieval processes. This may be true with stories like the one used in the present study that do not conform to the prototypical story structure. Because such stories do not conform to subjects' expectations of typical story structure, readers may not be able to identify structurally important story elements during or immediately after reading the story. Sometime after reading the story, however, the structural relationships between story elements may become more apparent. Therefore, if story elements undergo reorganization and integration into memory over time after subjects read the story (cf. Spiro, 1977), the structural characteristics of the passage may exert an influence on these processes. Furthermore, if these structural relationships become apparent sometime after reading the passage, subjects may use them as a retrieval mechanism on a later recall test.

In the present study, individual differences in field dependence were found to affect performance on delayed recall tests but not on immediate recall or recognition tests. Previous research on cognition styles has found that field-independent people tend to impose their own structure on materials, whereas field-dependent ones tend to go along with the structure of the materials as presented (see Witkin et al., 1977 for a review). Therefore, if the structural relations between story elements become apparent sometime after reading the story, field-dependent readers may capitalize on these structural relations to reorganize story information in memory. If one then assumes that story elements which are attended to

more during reading are more likely to be incorporated into this organization, then the performance of field-dependent readers on the delayed recall test may be accounted for.

On the other hand, readers with high scores on the embedded figures test may organize story information by instantiating it into their world knowledge schema. If story elements which are less attended to during reading are less likely to be incorporated into this memory organization, they should become less available for recall as the retention interval increases. Therefore, if burglar information were attended to more by both high and low scorers during reading, as suggested by the results of the immediate recognition test, it should also be recalled better by them on the delayed recall test. Subjects with intermediate scores, in contrast, might not be skilled enough at using either the structural characteristics of the text or their world knowledge in organizing story information to demonstrate this difference in recall on the delayed test. However, there may be other explanations that some people might consider equally plausible and future research is needed to investigate these possibilities.

Finally, subjects' performance on the immediate recognition test of the present study suggests that reader perspective may affect story comprehension and memory processes in a somewhat different way than text structure. Based on the results of recall and recognition tests, Yekovich and Thorndyke (1980) concluded that importance in terms of a story grammar affects retrieval processes but not encoding and storage pro-

cesses. They found that subjects could recognize true items corresponding to low level story elements that they had failed to include in their recall protocols. In contrast, the results of the present study suggest that reader perspective affects all three processes, i.e., encoding, storage and retrieval. Furthermore, Yekovich and Thorndyke also found that subjects were more likely to correctly reject a paraphrase of an original story item if it were unimportant than if it were important. In the present study, no differences were found in recognition of important and unimportant paraphrases. Future research might therefore address the question of how the effect of story structure differs from the effect of reader perspective.

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